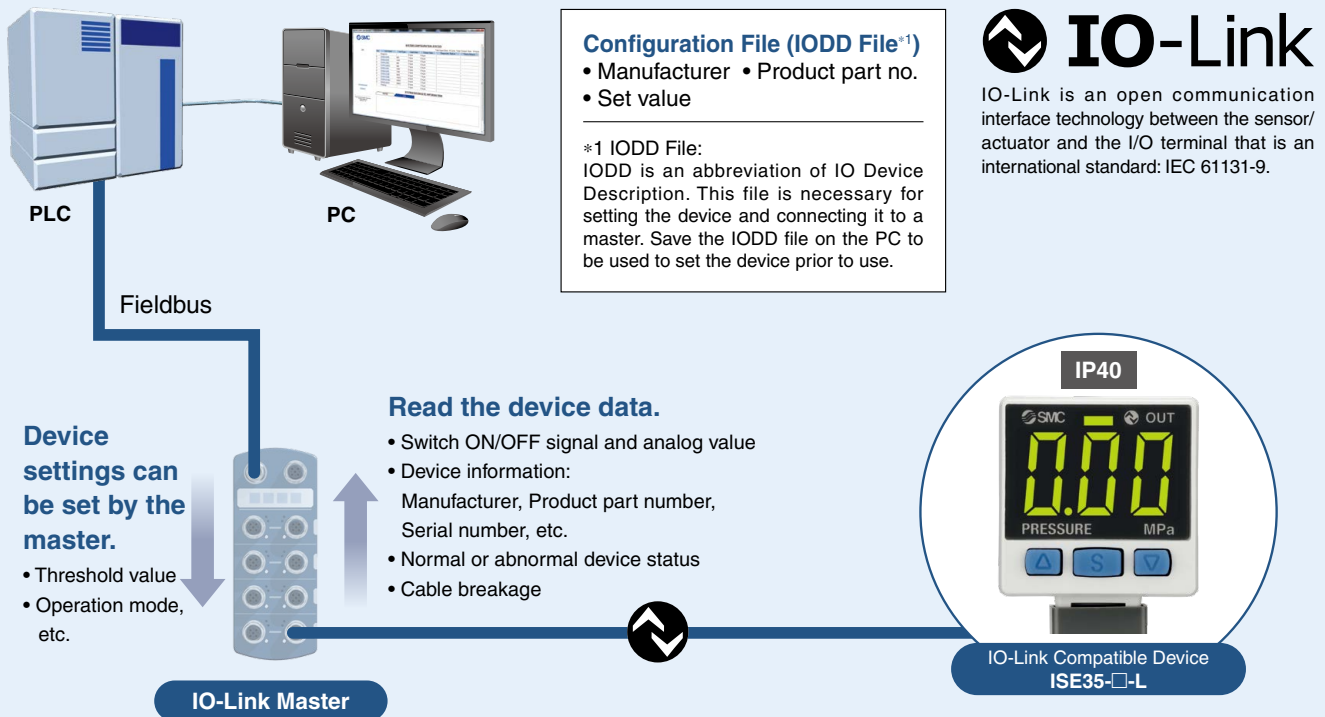


IO-Link Compatible ISE35-□-L

Visualization of operation/equipment status/Remote monitoring and control by communication



■ Visualization of operation/equipment status/Remote monitoring and control by communication

■ Implement diagnostic bits in the process data.

The diagnostic bit in the cyclic process data makes it easy to find problems with the equipment. It is possible to find problems with the equipment in real time using the cyclic (periodic) data and to monitor such problems in detail with the noncyclic (aperiodic) data.

Process Data

Bit offset	Item	Note
0	SW1 ^{*1}	0: OFF 1: ON
1	SW2 ^{*1}	0: OFF 1: ON
8	Diagnosis (Measurement)	0: Normal 1: Abnormal
13	Fixed output	0: OFF 1: ON
14	Diagnosis (Error)	0: Normal 1: Abnormal
15	Diagnosis (Error)	0: Normal 1: Abnormal
16 to 31	Measured pressure value	Signed 16 bit

Diagnosis items
Outside of rated pressure range
• Over current • Outside of zero-clear range • IO-Link master version error • Snapshot failure
Internal product malfunction

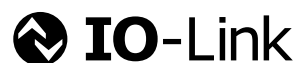
Bit offset	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16
Item	Measured pressure value (PD)															

Bit offset	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Item	System error	Other than system error	Fixed output	Reservation				Measurement diagnosis	Reservation						SW2*1	SW1*1
	Diagnosis															

^{*1} SW1/SW2 are process data outputs.

Digital Pressure Switch (Built-in Regulator Type)

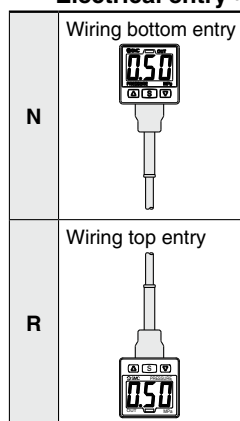
ISE35 Series



How to Order

ISE35-**N**-**25**-**M****L****□**-**□**

Electrical entry



Output specifications

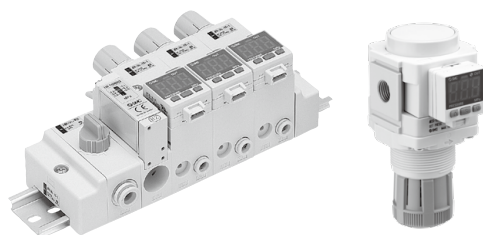
25	NPN open collector 1 output
65	PNP open collector 1 output
26	Analog voltage output: 1 to 5 V/0 to 10 V Switching type
28	Analog current output: 4 to 20 mA
L	IO-Link/Switch: 1 output (PNP or NPN switching type for switch output)

Unit specifications

Nil	With unit conversion function Note 1)
M	Fixed SI unit Note 2)
P	Pressure unit: psi (Initial value), with unit conversion function Note 1)

Note 1) Under the New Measurement Law, sales of switches with the unit switching function have not been allowed for use in Japan.

Note 2) Fixed unit: MPa



Made to Order (p. 194)

Symbol	Specifications
X523	AR/AW-D Series Mounting kit is included

* Only applicable to Option 2 (A)

Option 2

Nil	None
A	AR/AW series mounting kit Example) Regulator
B	ARM10/11 series mounting kit Lock pin

Option 1

Nil	None
L	Lead wire with connector (Length: 2 m)

Option/Part No.

When optional parts are required separately, use the following part numbers to place an order.

Name	Part No.	Note
Lead wire with connector	ZS-32-A	Length: 2 m (With rubber cover)
	ZS-32-A-X344	M12 connector (4 pins) Length: 0.3 m (With rubber cover)
Mounting kit	ZS-32-C	For ISE35-□-A (AR/AW series) Mounting thread (3 x 7L, 2 pcs.), adapter, lock pin, O-ring are attached
	ZS-32-D	For ISE35-□-B (ARM10/11 series) Mounting thread (M3 x 13, 2 pcs.), adapter, lock pin, O-ring are attached
	ZS-32-C-X473	For ISE35-□-A-X523 (AR/AW-D series) Mounting thread (3 x 8L, 2 pcs.), adapter, lock pin, O-ring are attached

Applicable series

Product series that this product can be installed in.

Product series	Model
F.R.L. combination	AC20 to AC60-D
Regulator	AR20 (K) to 60 (K)-D
Common supply regulator	AR20M (K) to 40M (K)-D
Filter regulator	AW20 (K) to 60 (K)-D
Mist separator regulator	AWM20 to 40-D
Micro mist separator regulator	AWD20 to 40-D
Compact manifold regulator	ARM10/ARM11
Direct precision operated regulator	ARP20 (K) to 40 (P)

Specifications

Refer to pages 595 and 596 for Pressure Switch Precautions. For details about the Specific Product Precautions, refer to the Operation Manual on the SMC website.

Model		ISE35-□-25-65-□
Applicable fluid		Air, Non-corrosive gas, Non-flammable gas
Pressure	Rated pressure range	0 to 1 MPa
	Display/setting pressure range	-0.10 to 1.00 MPa
	Minimum display/setting unit	0.01 MPa
	Withstand pressure	1.5 MPa
Power supply	Power supply voltage	12 to 24 VDC ±10%, Ripple (p-p) 10% or less
	Current consumption	55 mA or less (with no load)
	Protection	Polarity protection
Accuracy	Display accuracy	±2% F.S. ± 1 digit (at 25°C ±3°C ambient temperature)
	Repeatability	±1% F.S.
Switch output	Output type	NPN or PNP open collector 1 output
	Output mode	Hysteresis mode, Window comparator mode
	Switch operation	Normal output, Reversed output
	Max. load current	80 mA
	Max. applied voltage (NPN only)	30 V
	Internal voltage drop (Residual voltage)	1 V or less (at load current of 80 mA)
	Response time	1 s (0.25, 0.5, 2, 3 s selections)
	Hysteresis	Variable from 0*2
Display	Unit*1	MPa, kgf/cm ² , bar, PSI
	Display type	LED
	Display color	Red/Green
	Number of display digits	3 digits, 7 segments
	Indicator light	Lights up when switch output is turned ON. OUT: Green
Environment	Enclosure	IP40
	Operating temperature range	Operating: -5 to 50°C, Stored: -10 to 60°C (No condensation or freezing)
Standard		CE/UKCA marking, UL/CSA (E216656)
Materials in contact with fluid		Sensor pressure receiving area: Silicon, Heat resistant PPS, O-ring: NBR
Weight		Approx. 14 g (Body only)
		Approx. 38 g (Including lead wire with connector)

*1 Setting is only possible for models with the units selection function. Only MPa is available for models without this function.

*2 If the applied pressure fluctuates around the set value, the hysteresis must be set to a value greater than the amount of fluctuation, or chattering will occur.

Cable Specifications

Type		Oil resistance vinyl cabtyre cable: 2 m
Conductor cross section		0.2 mm ² (AWG25)
Insulator	O.D.	1.16 mm
	Color	Brown, Blue, Black (3-core)
Sheath	Finished O.D.	ø3.4

ISE35 Series

Specifications

Analog Output

Model		ISE35-□-26-□	ISE35-□-28-□
Applicable fluid		Air, Non-corrosive gas, Non-flammable gas	
Pressure	Rated pressure range	0 to 1 MPa	
	Pressure display range	-0.10 to 1.05 MPa	
	Min. display unit	0.01 MPa	
	Withstand pressure	1.5 MPa	
Power supply	Power supply voltage	12 to 24 VDC $\pm 10\%$, Ripple (p-p) 10% or less	
	Current consumption	55 mA or less (with no load)	
	Protection	Polarity protection	
Accuracy	Display accuracy	$\pm 2\%$ F.S. ± 1 digit (at 25°C $\pm 3^\circ\text{C}$ ambient temperature)	
	Repeatability	$\pm 1\%$ F.S. ± 1 digit	
	Analog output accuracy	$\pm 2.5\%$ F.S. (at 25°C $\pm 3^\circ\text{C}$ ambient temperature)	
	Analog output linearity	$\pm 1\%$ F.S.	
Analog output	Output type	1 to 5 V or 0 to 10 V	4 to 20 mA
	Output impedance	Approx. 1 k Ω	—
	Load impedance	—	Maximum load impedance at power supply voltage of 12 V: 300 Ω at power supply voltage of 24 V: 600 Ω Minimum load impedance: 50 Ω
Display	Unit^{*1}	MPa, kgf/cm ² , bar, PSI	
	Display type	LED	
	Display color	Red/Green	
	Number of display digits	3 digits, 7 segments	
Digital filter^{*2}		Variable from 0 to 10.0 s/0.01 s increments	
Environment	Enclosure	IP40	
	Operating temperature range	Operating: -5 to 50°C, Stored: -10 to 60°C (No condensation or freezing)	
Standard		CE/UKCA marking, UL/CSA (E216656)	
Materials in contact with fluid		Sensor pressure receiving area: Silicon, Heat resistant PPS, O-ring: NBR	
Weight		Approx. 14 g (Body only)	
		Approx. 38 g (Including lead wire with connector)	

*1 Setting is only possible for models with the units selection function. Only MPa is available for models without this function.

*2 The response time indicates when the set value is 90% in relation to the step input.

Specifications**IO-Link**

Model			ISE35-□-L-□
Applicable fluid			Air, Non-corrosive gas, Non-flammable gas
Pressure	Rated pressure range		0 to 1 MPa
	Display/setting pressure range		−0.10 to 1.05 MPa
	Minimum display/setting unit		0.01 MPa
	Withstand pressure		1.5 MPa
Power supply	Power supply voltage	When used as a switch output device (When not used as an IO-Link device)	12 to 24 VDC ±10%, Ripple (p-p) 10% or less
		When used as an IO-Link device	18 to 30 VDC, including ripple (p-p) 10%
	Current consumption		55 mA or less (with no load)
	Protection		Power supply polarity protection
Accuracy	Display accuracy		±2% F.S. ± 1 digit (at 25°C ±3°C ambient temperature)
	Repeatability		±1% F.S. ±1 digit
Switch output (SIO mode)	Output type		NPN or PNP open collector output (1 output)
	Output mode		Hysteresis mode, Window comparator mode, Error output, Output OFF
	Switch operation		Normal output, Reversed output
	Max. load current		80 mA
	Max. applied voltage (NPN only)		30 V
	Internal voltage drop (Residual voltage)		1.5 V or less (at load current of 80 mA)
	Delay time*1		10 ms or less + 0.00 to 10.0 s (0.01 s increments)
	Hysteresis	Hysteresis mode	Variable from 0*2
		Window comparator mode	
	Short circuit protection		Yes
Display	Unit*3		MPa, kgf/cm ² , bar, PSI
	Display type		LED
	Display color		Red/Green
	Number of display digits		3 digits, 7 segments
	Indicator light		SIO mode: Lights up when switch output is turned ON (OUT: Red) IO-Link communication: ON or flashing (OUT: Green)
Digital filter*4			Variable from 0 to 10.0 s/0.01 s increments
Environment	Enclosure		IP40
	Operating temperature range		Operating: −5 to 50°C, Stored: −10 to 60°C (No condensation or freezing)
Standard			CE/UKCA marking, UL/CSA (E216656)
Materials in contact with fluid			Sensor pressure receiving area: Silicon, Heat resistant PPS, O-ring: NBR
Weight			Approx. 14 g (Body only) Approx. 38 g (Including lead wire with connector)
Communication	IO-Link type		Device
	IO-Link version		V1.1
	Communication speed		COM2 (38.4 kbps)
	Configuration file*5		IODD file
	Min. cycle time		3.4 ms
	Process data length		Input data: 4 bytes, Output data: 0 bytes
	On request data communication		Yes
	Data storage function		Yes
	Event function		Yes
	Vendor ID		131 (0 x 0083)

*1 Value without digital filter (at 0 ms)

*2 If the applied pressure fluctuates around the set value, the hysteresis must be set to a value greater than the amount of fluctuation, or chattering will occur.

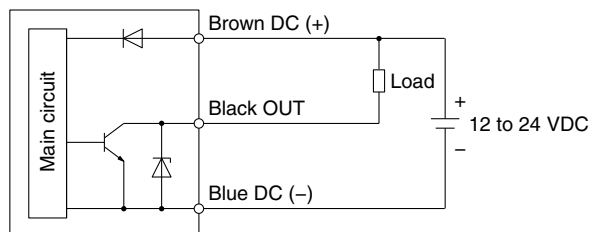
*3 Setting is only possible for models with the units selection function. Only MPa is available for models without this function.

*4 The response time indicates when the set value is 90% in relation to the step input.

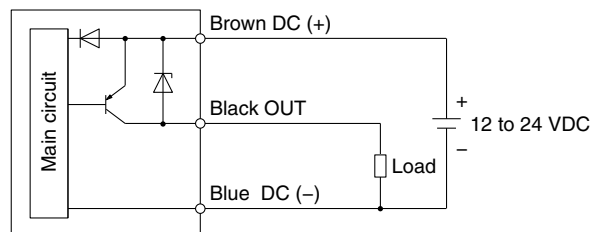
*5 The configuration file can be downloaded from the SMC website.

Internal Circuits and Wiring Examples

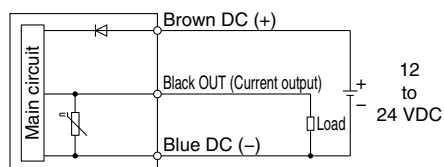
-25 NPN open collector 1 output



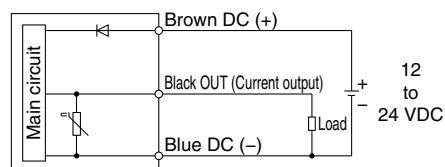
-65 PNP open collector 1 output



-26 Analog voltage output 1 to 5 V, 0 to 10 V Output impedance Approx. 1 k Ω



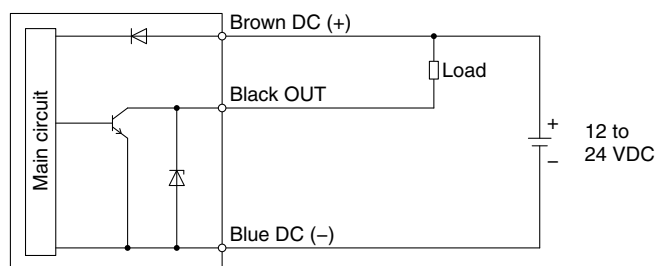
-28 Analog current output 4 to 20 mA Allowable load impedance 600 Ω or less (at 24 VDC) 100 Ω or less (at 12 VDC)



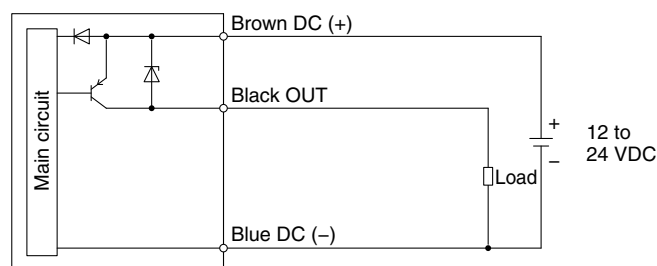
-L IO-Link/Switch: 1 output

When used as a switch output device (When not used as an IO-Link device = When in SIO mode)

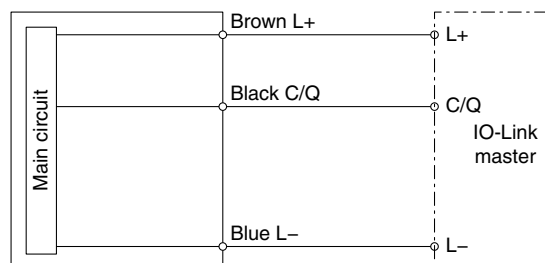
NPN open collector 1 output setting



PNP open collector 1 output setting

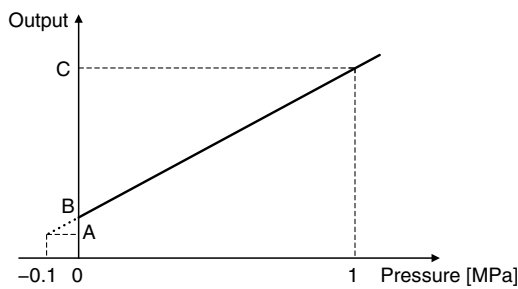


When used as an IO-Link device



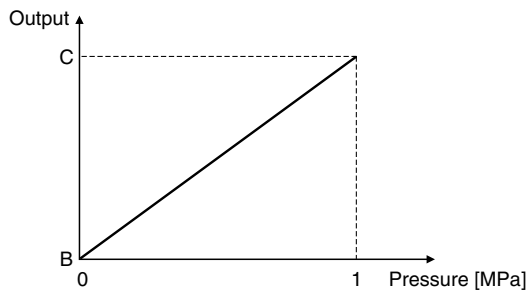
Analog Output

Voltage output (1 to 5 V)/Current output (4 to 20 mA DC)



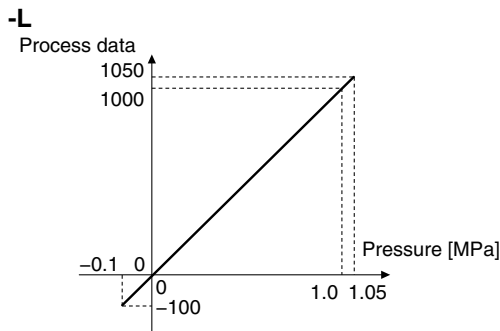
	Rated pressure range	A	B	C
Voltage output (1 to 5 V)	0 to 1 MPa	0.6 V	1 V	5 V
Current output (4 to 20 mA)		2.4 mA	4 mA	20 mA

Voltage output (0 to 10 V)



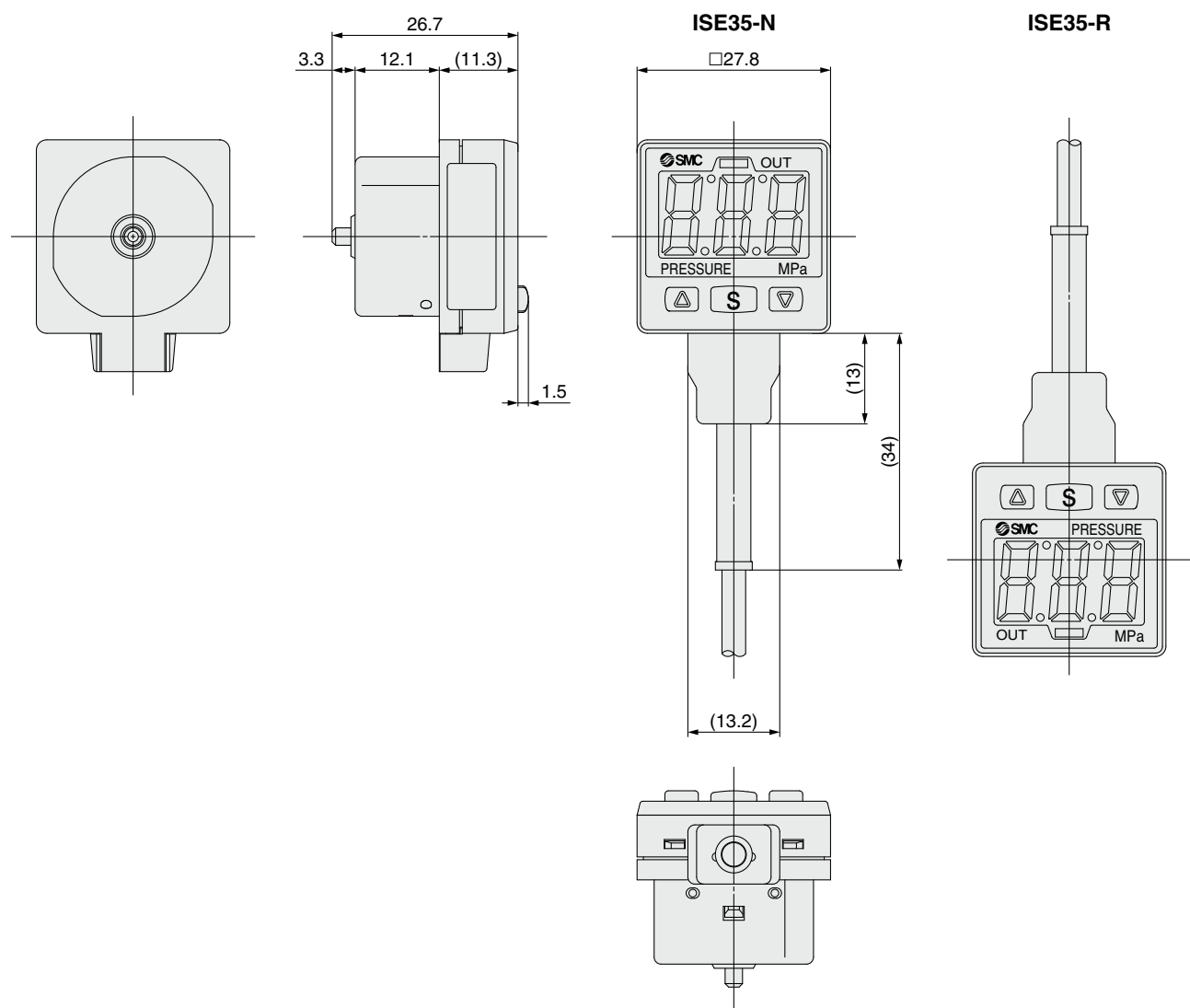
	Rated pressure range	A	B	C
Voltage output (0 to 10 V)	0 to 1 MPa	—	0 V	10 V

IO-Link: Process Data

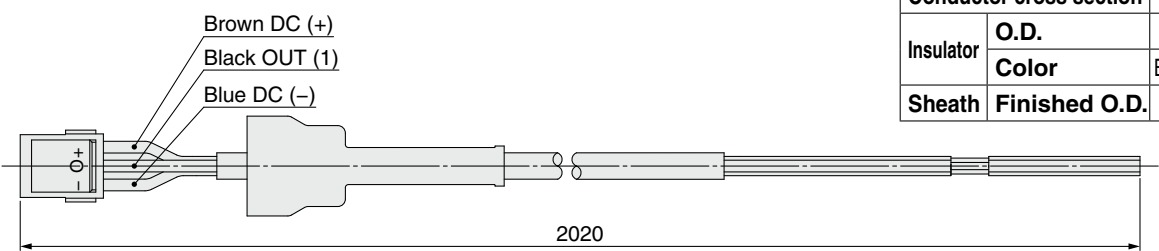


ISE35 Series

Dimensions



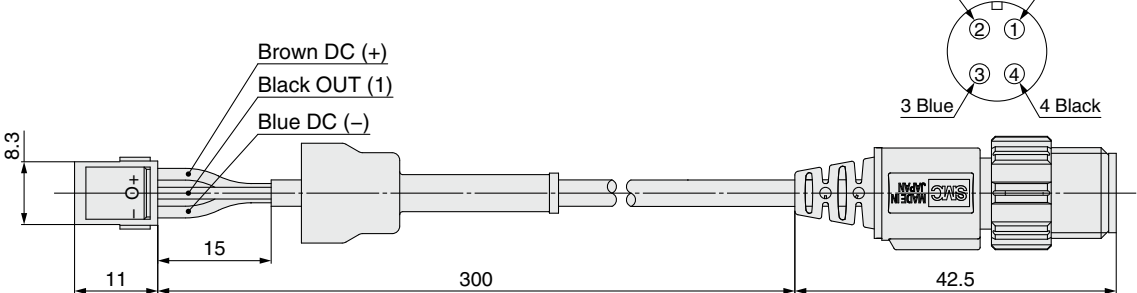
Lead wire with connector
ZS-32-A



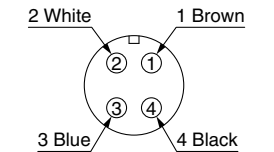
Cable Specifications

Conductor cross section		0.2 mm ² (AWG25)
Insulator	O.D.	1.16 mm
	Color	Brown, Blue, Black (3-core)
Sheath	Finished O.D.	ø3.4

Lead wire with connector
ZS-32-A-X344



Connector pin assignment



Pin no.	Description
1	DC (+)
2	N.C.
3	DC (-)
4	OUT1

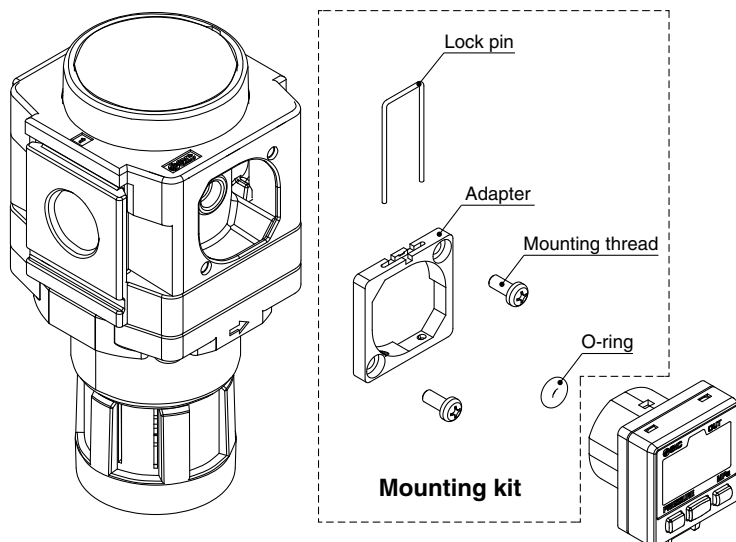
ISE35 Series

Made to Order

Please contact SMC for detailed dimensions, specifications and lead times.

1 AR/AW-D Series Mounting Kit is Included

Mounting screws, an adapter, a lock pin, and an O-ring are shipped together with the product.



How to Order

* Refer to "How to Order" on page 191 for standard specifications.

ISE35 – **□** – **□** – **□** **A** – **X523**

Electrical entry* •
Output specifications* •
Option 1* •
Unit specifications* •

• AR/AW-D series mounting kit is included

Option/Part No.

Name	Part No.	Note
Mounting kit	ZS-32-C-X473	For ISE35-□-A-X523 (AR/AW-D series) Mounting thread (3 x 8L, 2 pcs.), adapter, lock pin, O-ring are attached